CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-9
NPDES NO. CA0038318

REISSUING WASTE DISCHARGE REQUIREMENTS FOR
CITY AND COUNTY OF SAN FRANCISCO

SAN FRANCISCO INTERNATIONAL AIRPORT, WATER QUALITY CONTROL PLANT
NORTH BAYSIDE SYSTEM UNIT
SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay on, Region (hereinafter called the Board) finds that:

1. City and County of San Francisco, hereinafter called the discharger, submitted a report of waste discharge dated August 31, 1984 for reissuance of NPDES Permit No. CA0038318. The North Bayside System unit (NBSU) is the joint powers authority responsible for operation of certain shared transport, treatment, and disposal facilities. The NBSU includes Millbrae, Burlingame, South San Francisco, San Bruno, San Francisco International Airport, and Calgon Corporation.

2. The Discharger presently discharges an average dry weather flow of 0.8 million gallons per day (mgd) from its secondary treatment plant which has a dry weather design capacity of 2.2 mgd. This plant treats domestic wastewater from the various facilities at the Airport. The treated wastewater is discharged into the combined NBSU forcemain and outfall with final disposal into lower San Francisco Bay, a water of the State and United States, northeast of Point San Bruno through a submerged diffuser about 5300 feet offshore at a depth of 20 feet below mean lower low water. Latitude 37 deg., 37 min., 55 sec.; Longitude 122 deg., 21 min., 41 sec.

3. The discharge is presently governed by Waste Discharge Requirements, Order Nos. 79-162 and 84-13 which allow discharge into San Francisco Bay.

4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for lower San Francisco Bay and contiguous waters.

5. The beneficial uses of Lower San Francisco Bay and contiguous water bodies are:

   - Water contact recreation
   - Non-contact water recreation
   - Wildlife Habitat
   - Preservation of Rare and Endangered Species
   - Estuarine Habitat
   - Fish migration and spawning
   - Industrial service supply
   - Shellfish Harvesting
   - Navigation
   - Commercial and Sport Fishing

6. An Operations and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.

7. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

8. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

9. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant is prohibited.

2. The average dry weather flow shall not exceed 2.2 mgd. Average shall be determined over three consecutive months each year.

3. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.

B. Effluent Limitations

1. Effluent discharged shall not exceed the following limit:

Constituents	Units	30-day Average	7-day Average	Maximum Daily	Instantaneous Maximum
a. Settleable Matter	ml/l-hr	0.1	-	-	0.2
b. BOD_5 or	mg/l	30	45	60	-
Carbonaceous BOD_5	mg/l	25	40	50	-
c. Total Suspended Solids	mg/l	30	45	60	-
d. Oil & Grease	mg/l	10		20	-
e. Total Chlorine Residual (1)	mg/l	-	-	-	0.0

(1) Requirement defined as below the limit of detection in standard test methods. Compliance with this limitation may be demonstrated at the NBSU dechlorination facility.

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same times during the same period (85 percent removal).

3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples.

   Compliance with this limitation may be demonstrated at a point immediately after the effluent has combined with the effluent from the Airport's Industrial Waste Treatment Plant. Compliance may only be determined in this manner after submittal of a report acceptable to the Executive Officer (as specified in Provision D.4.) documenting compliance with the Basin Plan exception criteria for bioassay limitations.

5. Representative samples of the effluent shall not exceed the following limits:(1)

Constituent	Unit of Measurement	6 month median	Daily Maximum
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbons (2)	mg/l	0.002	0.004

(1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6. The moving median value for the MPN of total coliform in any five(5) consecutive effluent samples shall not exceed 23 coliform organisms per 100 milliliters. Any single sample shall not exceed 240 MPN/100 ml.

   During the wet weather months of October through April inclusive, effluent shall not exceed a five sample moving median of 240 MPN/100 ml nor a single samples maximum of 2400 MPN/100 ml.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visibile, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved Sulfide	0.1 mg/l maximum
c.	pH	Variation from natural ambient pH by more than 0.5 pH units.
d.	Un-ionized ammonia	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 70-162 and the sections of Order No. 84-13 relating to this discharge except for Provision D.6. Order No. 79-162 is hereby rescinded.

2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

   Mass Emission Limit in kg/d = Concentration limit in mg/l x 3.79 x Actual Flow in mgd averaged over the time interval to which the limit applies.

3. The discharger shall comply with all sections of this order immediately upon adoption.

4. The Discharger shall investigate and eliminate sources of effluent toxicity according to the following schedule:

Task	Compliance Date
a. Submit study plan for Executive Officer approval for identifying and quantifying all potential sources of toxicity. Itemize staff hours allocated and qualifications of personnel responsible for project.	February 1, 1985
b. Implement source contral program. Submit monthly reports indicating number and type of inspections made, results of all inspections, monitoring data, and followup actions planned for following month.	Monthly beginning February 1, 1985
c. Submit results of toxicity investgation. Identify alternatives and schedules for reducing toxicity to a level acceptable to Regional Board's Executive Officer. Implement all monitoring, inspection, and operational changes necessary to maintain toxicity at a minimum.	April 1, 1985

The discharger shall submit to the Board, on or before each compliance report date, a report detailing his compliance or non-compliance with the specific schedule date and task. If non-compliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the discharger will be in compliance. The discharger shall notify the Board by letter when he has returned to compliance with the time schedule.

5. The Discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. A time schedule and task outline for completion of the initial revision shall be submitted by February 15, 1985. Documentation of operator input and review shall accompany each annual update.

6. The Discharger shall review and update by April 15, 1985 and annually thereafter its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

7. The treatment short term storage or processing of sludge shall not create a pollution or nuisance as defined in Section 13050(1) and (m) of the California Water Code. All sludge shall be disposed of at a legally permitted site.

8. The processing or short term storage of sewage sludge shall not cause waste material to be in any position where it is, or can be carried from the sludge drying sites and deposited in waters of the State.

9. The sludge drying or short term storage sites shall have facilities adequate to divert surface runoff from adjacent areas, and to prevent any conditions that would cause drainage from the materials in the disposal sites into San Francisco Bay. Adequate protection is defined as protection from at least a 100-year storm and from the highest tidal stage that may occur.

10. The Discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 Standard Provision C.2 is to read as follows:

    2. The "30-day or 7-day average" discharge is the total discharge by weight during 30 or 7 consecutive calendar day periods, resepectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day or 7-day average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days when the measurements were made. For other than 7-day or 30-day periods, compliance shall be based on the average of all measurements made during the specified period.

11. The Discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer. Whenever the discharge is known or suspected to be in violation of effluent limits, the Discharger shall promptly accelerate its monitoring program to at least daily for those constituents in violation. Such daily analyses shall continue until such time as the effluent limits have been attained, or until such time as the Executive Officer determines to be appropriate.

12. Violations of waste discharge requirements are subject to civil penalties of up to $10,000 per day of violation (Water Code Section 13385). Failure to submit or falsification of monitoring reports is a misdemeanor subject to fines up to $500 or 6 months in jail (Water Code Section 13268).

13. This Order expires January 16, 1990. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

11. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on January 16, 1985.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions &
Reporting Requirements, April 1977
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

SAN FRANCISCO INTERNATIONAL AIPORT - WQCP

NORTH BAYSIDE SYSTEM UNIT

SAN MATEO COUNTY

NPDES NO. CA0038318

ORDER NO. 85-9

CONSISTS OF

PART A

AND

PART B

PART B

SAN FRANCISCO INTERNATIONAL AIRPORT WQCP AND NBSU

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present, preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

B. EFFLUENT

Station	Description
E-001	At any point in the plant after disinfection between the point of discharge into the combined outfall and the point at which all waste from the treatment plant is present.
E-001-C	At the Airport's final effluent pump station after the effluent has flow proportionately combined with final effluent from the Airport's Industrial Waste Treatment Plant.
E-002	At any point in the combined outfall after dechlorination between the point of discharge into San Francisco Bay and the point at which all waste tributary to that combined outfall is present.

C. RECEIVING WATERS

Station	Description
C-1	At a point in San Francisco Bay located over the geometric center of the outfall's discharge ports.
C-2	At a point in San Francisco Bay located midway between C-1 and C-3.
C-3	At a point in San Francisco Bay located in the center of the waste plume.
C-50-SW	At a point in San Francisco Bay, located 50 feet southwesterly, along the outfall line shoreward from Station C-1.
C-50-NW	At a point in San Francisco Bay, located 50 feet northwesterly from Station C-1, normal to the outfall line.

C-50-NE	At a point in San Francisco Bay located 50 feet northeasterly from Station C-1, along the outfall line extended.
C-50-SE	At a point in San Francisco Bay located 50 feet southeasterly from Station C-1 normal to the outfall.
C-300-N through C-300-NW (8 stations)	At a point in San Francisco Bay located on a 300 foot radius from the geometric center of the outfall diffuser, at equidistant intervals, with Station C-300-SW located shoreward from Station C-1 at the outfall line.
C-R-NW	At a point in San Francisco Bay located approximately 1500 feet northerly from the point of discharge.
C-R-SE	At a point in San Francisco Bay, located approximately 1500 feet southeasterly from the point of discharge.

D. LAND OBSDERVATIONS

Station	Description
P-1 through P-N	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 100 feet. (A sketch showing the locations of these stations will accompany each report).

E. OVERFLOWS AND BYPASSES

Station	Description
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations, or collection system.

NOTE: Initial SMP report to include map and description of each know bypass or overflow location, and report on pump station alarms, pumping capacity, upstream storage capacity and bypass location.

Reporting - Shall be submitted monthly and include date, time, and period of each overflow or bypass and measures taken or planned to prevent future occurrences (see Part A, Section F.2).

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Effective Date: _____

Attachments:
Table I and Legend for Table

ORDER NO. _____

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001			E-002			All C Sta	All P Sta	E-001C			
TYPE OF SAMPLE	C-24	3) G	3) C-24	Cont	3) G	9/ C-24	Cont	10) G	O	C-24			
Flow Rate (mgd)				Cont			Cont						
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	2/W		3/W			5/W							
Chlorine Residual & Dosage (mg/l & kg/day)		2H or Cont 5)			2H or Cont 5)								
Settleable Matter (ml/1-hr. & cu. ft./day)		D			D								
Total Suspended Matter (mg/l & kg/day)	2/W		5/W			5/W							
Oil and Grease (mg/l & kg/day)	2) M	2/ M			2/ 2M								
Coliform (Total or Fecal) (MPN/100 ml) per req't		3/W			5/W			3/ M					
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste			10) 2/M			9/ M				2/M			
Ammonia-N & Un-ionized (mg/l & kg/day) NH_3-N	2/M		6) 2/M			6) M		M		6) 2/M			
Nitrate Nitrogen (mg/l & kg/day)			6) 2/M			6) M				6) 2/M			
Nitrite Nitrogen (mg/l & kg/day)			6) 2/M			6) M				6) 2/M			
Total Organic Nitrogen (mg/l & kg/day)	2/M												
Total Phosphate (mg/l & kg/day)													
Turbidity (NTU)			D			M		M					
pH (units)		D			D			M					
Dissolved Oxygen (mg/l and % Saturation)		D			D			M					
Temperature (°C)		D			D			M					
Apparent Color (color units)													
Secchi Disc (inches)								M					
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)		D			D			M					
Arsenic (mg/l & kg/day)			4) Q										
Cadmium (mg/l & kg/day)			4) Q										
Chromium, Total (mg/l & kg/day)			4) Q										
Copper (mg/l & kg/day)			4) Q										
Cyanide (mg/l & kg/day)			4) Q										
Silver (mg/l & kg/day)			4) Q										
Lead (mg/l & kg/day)			4) Q										

TABLE I (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001			E-002			All C Sta	All P Sta	All OV Sta			
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	O				
Mercury (mg/l & kg/day)			Q 4)										
Nickel (mg/l & kg/day)			Q 4)										
Zinc (mg/l & kg/day)			Q 4)										
Phenolic Compounds (mg/l & kg/day)			Q 4)										
All Applicable Standard Observations		D			D			M	E	E			
Bottom Sediment Analyses and Observations													
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)			Q										
Dewatered Sludge									D 7)				
Daily Rainfall									D				

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
Cont = continuous sampling
O = observation

TYPES OF STATIONS

A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
OV = overflows and bypasses

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

1/ During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:

1. Composite sample for BOD and Total Suspended Solids.

2. Grab samples for Total Coliform, Settleable Matter and Oil and Grease.

3. Continuous monitoring of bypassed flow.

2/ In the event that sampling for oil and grease once every two weeks or less frequently shows an apparent violation of the waste discharge permit 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly so that a true 30-day average can be computed and compliance can be determined.

3/ Grab samples shall be taken on day(s) of composite sampling.

4/ If any sample is in violation of limits, sampling shall be increased for that parameter to weekly until compliance is demonstrated in two successive samples.

5/ Data shall be reported using forms provided or approved equivalent. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

6/ These parameters shall be tested for on the same composite sample used for the bioassay.

7/ Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.

8/ Sampling shall be coordinated to be on the same date and approximate time as for 1) the South Bayside System Authority and the City of San Mateo receiving water monitoring, and 2) routine grab and composite effluent monitoring.

9/ Sample date for bioassay and for one of all other specified parameters at E-002 shall coincide with date and time of Calgon Corporation E-001 composite sample.

10/ If a continuous bioassay is to be run, sample may be taken from E-001 prior to chlorination instead of continuously dechlorinating E-001 effluent.